

Serial No. 09/488,752

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 3, 7 and 9 as follows:

Claim 1 (currently amended): A display system comprising:

- 5 a memory, containing graphics data, divided into multiple logical regions to be selected between for display, and frame buffer attribute data for each pixel of a monitor; and
- an attribute system, connected to said memory wherein said attribute system automatically selects graphics data from fewer than all of said logical regions based on
- 10 said frame buffer attribute data and transmits said graphics data to a display, wherein said selected logical regions of memory are not contiguous.

Claim 2 (previously presented): The display system recited in claim 1; wherein said graphics data and said frame buffer attribute data are stored in physically separate

15 memories.

Claim 3 (currently amended): A display system, comprising:

- a memory, containing graphics data, divided into multiple logical regions to be selected between for display, and frame buffer attribute data for each pixel of a
- 20 monitor; and
- a regions system, that automatically calculates which regions of said graphics data contain data necessary for display of a block of pixels; wherein said regions are fewer than all of said logical regions, wherein said selected logical regions of memory are not contiguous.

35

HP Docket Number: 10991620-2

Page 3 of 14

Serial No. 09/488,752

Claim 4 (previously presented): The display system recited in claim 3; wherein said graphics data and said frame buffer attribute data are stored in physically separate memories.

- 5 Claim 5 (original): The display system recited in claim 3;
wherein said regions system sends identities of said regions to a screen refresh unit; and
wherein said screen refresh unit, calculates memory addresses from said identities and sends selected graphics data from said memory to a display.

10

Claim 6 (original): The display system recited in claim 5, said logical regions further comprising memory to store graphics data for each pixel of a monitor.

- Claim 7 (currently amended): A method for selectively reading pixel data from a
15 frame buffer memory array, comprising the steps of:
defining a plurality of regions of frame buffer memory to be selected between for display, wherein each region comprises memory to store graphics data for each pixel of a monitor;
storing frame buffer attribute data for each pixel in a memory, wherein said
20 frame buffer attribute data encodes which of said regions are to be displayed on said monitor;
retrieving said frame buffer attribute data for a pixel from said memory;
calculating a subset of said regions of frame buffer memory that are required to display said pixel on said monitor, wherein said subset of said regions of frame
25 buffer memory are not contiguous; and

Serial No. 09/488,752

retrieving from said frame buffer memory pixel data only from said subset of regions of frame buffer memory that are required to display said pixel on said monitor.

- 5 Claim 8 (previously presented): The method for selectively reading pixel data from a frame buffer memory array as recited in claim 7; wherein said graphics data and said frame buffer attribute data are stored in said frame buffer memory.

- Claim 9 (currently amended): A method for selectively reading pixel data from a
10 frame buffer memory array, comprising the steps of:

defining a plurality of regions of frame buffer memory to be selected between for display, each region further comprising memory to store graphics data for each pixel of a monitor;

- storing frame buffer attribute data for each pixel in a memory, encoding which
15 of said regions are to be displayed on said monitor using the frame buffer attribute data;

defining groups of pixels as tiles;

selecting a tile for display on said monitor;

retrieving said frame buffer attribute data for said tile from said memory;

- 20 calculating a subset of said regions of frame buffer memory that are required to display said tile on said monitor, wherein said subset of said regions of frame buffer memory are not contiguous; and

retrieving from said frame buffer memory pixel data only from said subset of regions of frame buffer memory that are required to display said tile on said monitor.

25

Serial No. 09/488,752

Claim 10 (previously presented): The method for selectively reading pixel data from a frame buffer memory array as recited in claim 9; wherein said graphics data and said frame buffer attribute data are stored in said frame buffer memory.